

REMARKS

Claims 1, 3, 5-8, and 10-14 remain pending in the application. Applicants note that according to the Final Office Action, this case has been reassigned to a new Examiner. Applicants, therefore, request further consideration in view of the following.

I. Introduction – Controller Configuration

The claimed invention includes a “control portion being configured” in a particular manner. This lengthy prosecution history boils down to the previous Examiner’s premise – ***incorrectly*** – that the configuration of an electronic controller is not structural. Although this case has been reassigned, the current rejections are largely verbatim to the rejections of previous Office Actions. The previous Examiner did not quote the language of the amended portions of the claims submitted previously and ***following an interview with the previous Examiner***. We would request that the new Examiner reconsider the rejections in view of the current claim language.

In the Response to Arguments section of the Final Office Action, in adopting the position of the previous Examiner, the current Examiner characterizes the claimed invention as a “method of operations of the controller during use of the washing machine.” The Examiner concludes that the claimed method of operations does not provide structural limitations for an apparatus claim. The Examiner then quotes MPEP § 2114, regarding the use of functional language in apparatus claims. Beyond such quotation, the Examiner does not explain why the configuration of an electronic controller is not structural. (See Final Office Action at pages 13-14.) Applicants submit that the Examiner has misapplied MPEP § 2114, insofar as the claimed configuration of the control portion is indeed structural, and not functional as concluded by the Examiner.

In fact, it was the ***previous Examiner*** who suggested that “configured” language be added to the claims to replace the more functional “wherein” recitation regarding the nature of the control portion. (See Advisory Action dated December 21, 2007, page 2.) Applicants did so, and further amended the claims in various responses to clarify the precise configuration of the controller. Despite the various amendments, the previous

Examiner never deviated from her basic position that the configuration of an electronic controller is not structural. In other words, any electronic controller (computer, microprocessor, software controller, etc.) reads on any other controller ***regardless of how such controllers are configured***. Comparable rejections are carried over into the current Final Office Action.

Applicants submit that the previous Examiner was simply incorrect and her position is contrary to conventional claiming of devices that are operated under the control of a computer, microprocessor, or comparable electronic control device. By simply adopting the previous Examiner's rejections, Applicants submit that the rejections based on the purported non-structural nature of the control portion remain deficient. Applicants, therefore, request that the current Examiner reconsider the claims in view of the fact that the configuration of the control portion is structural and therefore entitled to patentable weight. Once the claimed control portion configuration is afforded its proper weight, the claimed invention is distinguishable over the prior art.

II. Claim Rejections Under 35 U.S.C. § 103(a)

A. Overview of the Claim Language

Claims 1, 3, 5-8, and 10-14 are pending in the application. Similar to the previous Office Actions, the claims stand rejected under 35 U.S.C. §103(a) as being obvious based on the combination of Totterdell, European Patent Application 0 028 067 (Totterdell), and Ohsugi et al., U.S. Patent No. 4,955,213 (Ohsugi), by themselves or in combination with various tertiary references.

In summary, independent claims 1, 3, and 8 each recite at least the following two features. First, the claims recite a specific configuration of the control portion to clarify its structural nature in response to the previous Examiner's comments that the features of the control portion are not structural. Second, the claims recite a specific calculation of the claimed "prescribed time period". The prescribed time period is set in this manner so as to minimize the time period of the water level detection, thereby saving power.

As background, on January 30, 2008, Applicant filed an RCE containing claim amendments. In the prior Advisory Action, the previous Examiner had commented that “configured” language was not used in connection with the control portion, suggesting that she regarded the aspects of the control portion as functional, not structural. Applicants, therefore, amended the claims in the RCE to recite “configured” language more explicitly. In addition, the previous version of the claims referred only to water level detection “when said washing is completed”. In the Advisory Action, the previous Examiner interpreted “washing” to exclude other portions of a wash cycle (e.g., rinsing and draining), contrary to the manner in which the term is used in the application. Applicants, therefore, amended the claims to recite that water level detection occurs after the entire wash cycle is completed (including rinsing and draining).

On February 29, 2008, the previous Examiner participated in a telephone interview to discuss the claims as submitted in the RCE. The previous Examiner indicated, however, that she still regarded the claims as not being patentable over the cited prior art. As the discussions proceeded, it became apparent that the Examiner was still affording limited patentable weight to manner in which the control portion was claimed. More specifically, the Examiner seemed not to be affording patentable weight to the precise configuration of the control portion as recited in the claims. In addition, the Examiner felt that the “prescribed time period” was being recited too broadly, and may have more patentable weight if narrowed to a more specific mathematical operation or formula.

In accordance with the previous Examiner’s comments (although Applicants recognize that the Examiner did not commit to favorable consideration of particular claim language), independent claims 1, 3, and 8 were amended. First, the claims recite the structural nature and configuration of the control portion. Specifically, the claims recite: “said control portion being configured to recognize when said wash cycle is completed, and upon such recognition to cause said water level detecting unit to detect water level in said water tank only for a prescribed time period. . .” Because the claimed control portion has a particular configuration, it is structurally different from other controllers having different configurations, such as the controllers described in the

references.

The current Examiner has maintained the previous Examiner's rejections. In the various Office Actions, including the current Final Office Action, the Examiners essentially have taken the position that a generic controller discloses the features of the claimed controller merely because any controller is "capable" of being configured as claimed. (See, e.g., Final Office Action at paragraphs 5-7; page 10 lines, 4-7; page 11, lines 13-21; page 13, paragraph 9.) As stated above, Applicants disagree with this analysis. The Examiner's position is analogous to saying a claimed computer programmed in a particular fashion is disclosed by *any computer* simply because a generic computer is capable of being programmed as claimed. Such an analysis would be incorrect. Accordingly, the configuration of the controller as recited in the current claims is structural in nature, and to reject the claims the references must disclose or render obvious the controller as *configured in the claims*. As shown below, Totterdell and Ohsugi, whether individually or in combination, do not disclose or render obvious the controller having the claimed configuration. The claims, therefore, are patentable.

In addition, the independent claims recite a particular manner by which the claimed "prescribed time period" is determined. Specifically, these claims recite: "a prescribed time period substantially equaling a smallest amount of water detectable by said water level detecting unit divided by a minimum flow rate of water fed from said water feed unit. . ." By "substantially equaling" a smallest amount of water detectable divided by a minimum flow rate, Applicants refer to minor adjustments that may be made for component variations, as described in the specification. For instance, the specification describes an example in which the minimum flow rate is 0.3 L/min and the smallest detectable water level is 3L, resulting in a calculated prescribed time period of 10 min. (Specification at page 14, lines 13-17.) This calculated prescribed time period may be adjusted to 15 min to account for component variations to ensure proper monitoring. (Specification at page 14, lines 18-19.) As further described below, neither Totterdell nor Ohsugi discloses detecting a water level for a prescribed time period as claimed.

B. *Totterdell and Ohsugi Do Not Render the Claims Obvious*

The primary references of Totterdell and Ohsugi, whether individually or in combination, do not disclose or suggest the claim features of a control portion being configured to recognize when said wash cycle is completed, and upon such recognition, to cause said water level detecting unit to detect water level in said water tank only for a prescribed time period substantially equaling a smallest amount of water detectable by said water level detecting unit divided by a minimum flow rate of water fed from said water feed unit.

1. *Totterdell does not teach water level monitoring at the end of the wash cycle for a prescribed time period.*

Totterdell teaches monitoring the water level during the draining operation rather than at the end of the wash cycle. (See, e.g., page 2, line 24 to page 3, line 20.) In the passage relied upon by the Examiner, Totterdell states: “At the end of the wash/rinse part of the programme, a ‘pump-out’ signal is applied to controller 10 to energise the drain pump 6. This signal also starts a timer 18 within the controller 10. During this period controller 10 monitors the switch 12 and if the latter does not close during the time period of timer 18, this indicates that the filter is blocked and a register 19 is set.” (Page 5, lines 18-24, emphasis added.)

Thus, although there is a reference in Totterdell to monitoring “at the end of the wash/rinse part of the programme”, water level monitoring, as described in this passage, is occurring during draining insofar as a “pump-out signal is applied to controller 10 to energise the drain pump 6.” Thus, the water level is monitored while the drain pump is energized, *i.e., during draining*. Water level detection does not occur at the end of the entire wash cycle, which would include after draining, but only after the “wash/rinse part of the programme”. This differs from the claimed invention in which the residual water level is monitored after even the drain part of the cycle is completed.

In this vein, Totterdell is concerned with detecting a blockage which may prevent appropriate draining. In contrast, the claimed invention is concerned with detecting a leakage from the water feed unit into the drum. Because Totterdell is not concerned

with detecting leakage from the water feed unit, it does not teach or suggest monitoring the water level based on a minimum flow rate of the water feed unit. There also is no need in Totterdell to monitor the water level once the draining portion of the cycle is complete to detect a drain blockage.

Based on the above, the controller in Totterdell is not configured as claimed, to recognize when the wash cycle is completed, and upon such recognition, to cause said water level detecting unit to detect water level in said water tank only for a prescribed time period. Totterdell teaches monitoring the water level only during draining, and therefore water level monitoring is not tied to the end of the wash cycle. In addition, in Totterdell the time period of water level monitoring also is based upon the draining cycle. Totterdell, therefore, does not disclose monitoring the water level for the claimed prescribed time “substantially equaling a smallest amount of water detectable by said water level detecting unit divided by a minimum flow rate of water fed from said water feed unit”. Indeed, the Examiner recognizes that Totterdell does not teach water level detection for a prescribed time period at all. (See Office Action at page 9, lines 6-8.) The controller of Totterdell, therefore, is not configured in a manner comparable to the claimed controller.

2. *Ohsugi does not make up for the deficiencies of Totterdell*

A combination of Totterdell with Ohsugi does not result in or disclose the claimed invention. Ohsugi discloses a conventional auto shutoff that shuts off the power after an arbitrary time after the wash cycle. Accordingly, although a controller in Ohsugi may be able to recognize when the wash cycle is completed, Ohsugi does not disclose or suggest, as claimed, a controller that, upon such recognition, is configured to cause a water level detecting unit to detect water level in the water tank. Indeed, Ohsugi does not disclose water level detection for the purpose of detecting leakage at the water feed unit. Ohsugi merely teaches water level detection to ensure that the tub is filled to the correct amount during filling. (Ohsugi at col. 3, lines 62-64.) Water level detection thus is not based upon a prescribed time period as claimed. In addition, the shutoff in Ohsugi occurs an arbitrary time after that wash cycle is complete (e.g. five minutes).

The auto shutoff does not activate after a prescribed time, as claimed, substantially equaling a smallest amount of water detectable by a water level detecting unit divided by a minimum flow rate of water fed from a water feed unit.

Accordingly, Totterdell and Ohsugi each lack several features recited in independent claims 1, 3, and 8. In addition, a combination of Totterdell and Ohsugi does not result in or disclose the claimed invention. Totterdell teaches water level detection during draining, and Ohsugi teaches water level detection during tub filling. The references, therefore, whether individually or in combination, do not disclose or teach a controller “configured to recognize when said wash cycle is completed, and upon such recognition to cause said water level detecting unit to detect water level in said water tank”.

In addition, the Examiner recognizes that Totterdell does not teach water level detection for a prescribed time period at all. In Ohsugi water level detection is based on the rising water level in the tub during filling, and not a prescribed time. The references, therefore, whether individually or in combination, do not disclose or teach a controller additionally configured to cause the claimed water level detection for a “prescribed time period”. In addition, to the extent Ohsugi teaches that power may be shut off after a set time period after the wash cycle is completed, the time period is arbitrary. Ohsugi does not disclose or suggest water level detection for a “prescribed time period substantially equaling a smallest amount of water detectable by said water level detecting unit divided by a minimum flow rate of water fed from said water feed unit”.

Accordingly, for at least these reasons a combination of Totterdell and Ohsugi does not result in, disclose, or suggest the claimed invention of independent claims 1, 3, and 8. The dependent claims are non-obvious for at least the same reasons. Accordingly, the rejections should be withdrawn.

C. Additional Arguments Regarding Certain Dependent Claims

The tertiary references cited against certain dependent claims do not supply the deficiencies of Totterdell and Ohsugi, and the Examiner does not indicate otherwise. Accordingly, the rejection of all claims should be withdrawn for at least the reasons

stated above. In addition, the tertiary references do not render the dependent claims obvious for at least the following reasons.

1. Claims 5, 8, and 10 – the Locking Unit

Claims 5, 8, and 10 stand rejected pursuant to 35 U.S.C. § 103(a) as being obvious over Totterdell and Ohsugi, and further in view of Dirnberger et al., U.S. Patent No. 6,840,553 (Dirnberger). Dirnberger allegedly discloses the claimed lock unit (citing col. 4 lines 48-65). Dirnberger states generally that a machine door lock may be blocked when water in the washing machine has reached a level at which opening the door would permit water to escape. Dirnberger, however, does not disclose the additional feature of claims 5, 8, and 10 that the control portion causes the lock unit to lock the door when the leakage detecting unit detects water leakage at the water feed unit.

2. Claims 6-7 and 11-14 – Miscellaneous Features

Claims 6-7 and 11-13 stand rejected pursuant to 35 U.S.C. § 103(a) as being obvious over Totterdell and Ohsugi, and further in view of Baubin, U.S. Patent No. 4,696,171 (Baubin) and Nakamura et al., U.S. Patent No. 5,000,015 (Nakamura). Claim 14 stands rejected pursuant to 35 U.S.C. § 103(a) as being obvious over these references and further in view of Kronbetter et al., U.S. Patent No. 6,256,823 (Kronbetter).

The Examiner states that Nakamura discloses a lock detecting unit (col. 13 lines 60-67). The lock detecting unit may detect whether the machine lid is faulty. The Examiner also states that Baubin discloses a pressure switch (level sensor) that indicates an overflow situation and causes water to drain from the wash tub (col. 11 lines 56-67). The Examiner states that it would have been obvious to use a leak detecting unit that detects a high water level that would tell the control portion to drain the water, in combination with a lock detecting unit. Applicants respectfully disagree. The level sensor of Baubin detects an overflow situation during the wash cycle, as in over filling the tub. It is not at all a “leakage detecting unit [that] detects a water leakage at said water feed unit”, as claimed. Applicants submit that overflow detection and leakage detection are not sufficiently comparable to render claims 6-7 and 11-12

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obvious.

Regarding claims 13-14, the Examiner indicates that Totterdell discloses a plurality of sensors to monitor the water level (page 5 lines 7-25). As is apparent from the disclosure of Totterdell, however, the sensors monitor and control filling and draining during the various components of the wash cycle. The sensors do not, after the completion of the wash cycle, control the draining of water improperly remaining after the wash cycle, as does the control portion recited in claims 13 and 14. The tertiary references cited by the Examiner do not make up for these deficiencies of Totterdell.

For at least these reasons, the dependent claims are not obvious over Totterdell and Ohsugi, and further in view of the other tertiary references. The rejection of these claims, therefore, should be withdrawn. .

Conclusion

For at least the foregoing reasons, claims 1, 3, 5-8, and 10-14 are believed to be allowable, and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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DATE: October 20, 2008

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